

**REMARKS**

Claims 1 through 5 and 7 through 63 are currently pending in the application.

Claims 33 through 57 are withdrawn from consideration.

Claims 1 through 5, 7 through 32 and 58 through 63 are rejected.

Applicant has added a new claim 64.

This amendment is in response to the Office Action of February 24, 2004.

**35 U.S.C. § 112 Claim Rejections**

Claims 1 through 5, 7 through 32 and 59 through 63 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Applicant has amended the claimed invention as suggested by the Examiner for the presently claimed invention to particularly point out and distinctly claim the subject matter of the invention to comply with the provisions of 35 U.S.C. § 112.

Applicant have amended deleted the hyphen from the term “liquid-wetting agent layer” in claims 1 and 10. The correction made to claim 1 eliminates any antecedent basis problem with regard to dependent claims 3 through 9. Dependent claim 9 has been amended to recite that the liquid wetting agent layer increases the surface tension of one of said surface of said semiconductor device and said surface of said substrate. The term “liquid” has been deleted from dependent claims 59-61 so that the limitations of dependent claims 59-61 have a proper antecedent basis. The term “wetting agent” has been deleted in claim 62 and replaced with “silane-based material.” Therefore, presently amended claims 1 through 5, 7 through 32 and 59 through 63 are allowable under the provisions of 35 U.S.C. § 112.

**35 U.S.C. § 103(a) Obviousness Rejections**

Obviousness Rejection Based on Dery (U.S. Patent 6,074,895) and Higgins (U.S. Patent 5,492,863)

Claims 1, 2, 4, 5, 7, 9 through 12, 15, 22 and 58 through 60 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Dery (U.S. Patent 6,074,895) and Higgins (U.S. Patent 5,492,863). Applicant respectfully traverses this rejection, as hereinafter set forth.

Applicant asserts that to establish a *prima facie* case of obviousness under 35 U.S.C. § 103 three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the cited prior art reference must teach or suggest all of the claim limitations. Furthermore, the suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure.

After carefully considering the cited prior art, the rejections, and the Examiner's comments, Applicant has amended the claimed invention to clearly distinguish over the cited prior art.

Applicant asserts that a *prima facie* case of obviousness under 35 U.S.C. § 103 has not been established for presently amended independent claims 1, 10, and 58 by any combination of the cited prior art because any combination of the cited prior art does not teach or suggest all the claim limitations. With regard to claim 1, neither the Dery Patent nor the Higgins Patent nor any combination thereof teaches or suggests the claim limitation calling for "a surface tension between said liquid wetting agent layer and said flowable material is greater than a surface tension between said flowable material and one of said surface of said semiconductor device and said surface of said substrate." With regard to claim 10, neither the Dery Patent nor the Higgins Patent nor any combination thereof teaches or suggests the claim limitation calling for "a surface tension between said liquid wetting agent layer and said flowable material is greater than a surface tension between said flowable material and one of said active surface of said semiconductor device and said upper surface of said substrate." In other words, the surface

tension between the liquid wetting agent layer and the flowable material applied thereto is greater than what the surface tension would be between the flowable material and a surface of the semiconductor device or the substrate. Therefore, independent claims 1 and 10 and claims depending therefrom are allowable over any combination of the cited prior art.

With regard to independent claim 58, neither the Dery Patent nor the Higgins Patent nor any combination thereof teaches or suggests the claim limitation calling for “a surface tension between said wetting agent layer and said flowable material is greater than a surface tension between said flowable material and one of said active surface of said semiconductor device and said upper surface of said substrate.” Therefore, independent claims 10 and claims depending therefrom are nonobvious.

Obviousness Rejection Based on Dery (U.S. Patent 6,074,895) and Higgins (U.S. Patent 5,492,863) as applied to claims 1, 2, 4, 5, 7, 9 through 12, 15, 22 and 58 through 60 and further in combination with Plueddemann (U.S. Patent 4,231,910)

Claims 3, 8 and 61 through 63 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Dery (U.S. Patent 6,074,895) and Higgins (U.S. Patent 5,492,863) as applied to claims 1, 2, 4, 5, 7, 9 through 12, 15, 22 and 58 through 60 and further in combination with Plueddemann (U.S. Patent 4,231,910). Applicant respectfully traverses this rejection, as hereinafter set forth.

Applicant asserts that a *prima facie* case of obviousness under 35 U.S.C. § 103 has not been established for presently amended independent claim 62 because any combination of the cited prior art does not teach or suggest all the claim limitations. Neither the Dery Patent, the Higgins Patent, nor the Plueddemann Patent nor any combination thereof teaches or suggest the claim limitation calling for “a surface tension between said silane-based material layer and said flowable material is greater than a surface tension between said flowable material and one of said active surface of said semiconductor device and said upper surface of said substrate.” In other words, the surface tension between the silane-based material layer and the flowable material applied thereto is greater than what the surface tension would be between the flowable material and a surface of the semiconductor device or the substrate. Therefore, independent claim 62 and

claims depending therefrom are allowable.

Furthermore dependent claims 3 and 8 are allowable because they depend from allowable independent claim 1.

Obviousness Rejection Based on Dery (U.S. Patent 6,074,895) and Higgins (U.S. Patent 5,492,863) as applied to claims 1, 2, 4, 5, 7, 9 through 12, 15, 22 and 58 through 60 supra, and further in combination with Akram (U.S. Patent 5,766,982)

Claims 13, 14, 16 through 21 and 23 through 30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Dery (U.S. Patent 6,074,895) and Higgins (U.S. Patent 5,492,863) as applied to claims 1, 2, 4, 5, 7, 9 through 12, 15, 22 and 58 through 60 supra, and further in combination with Akram (U.S. Patent 5,766,982).

Dependent claims 13, 14, 16 through 21 and 23 through 30 are allowable because they depend from allowable independent claim 10. Therefore, the rejection of claims 13, 14, 16 through 21 and 23 through 30 should be withdrawn.

Obviousness Rejection Based on Dery (U.S. Patent 6,074,895) and Higgins (U.S. Patent 5,492,863) as applied to claims 1, 2, 4, 5, 7, 9 through 12, 15, 22 and 58 through 60 supra, and further in combination with Banerji (U.S. Patent 5,203,076)

Claims 31 and 32 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Dery (U.S. Patent 6,074,895) and Higgins (U.S. Patent 5,492,863) as applied to claims 1, 2, 4, 5, 7, 9 through 12, 15, 22 and 58 through 60 supra, and further in combination with Banerji (U.S. Patent 5,203,076). Applicant respectfully traverses this rejection, as hereinafter set forth.

Dependent claims 31 and 32 are allowable because they depend from allowable independent claim 10.

**CONCLUSION**

Applicant submits that claims 1 through 5, 7 through 32 and 58 through 64 are clearly allowable over the cited prior art. Applicant requests the allowance of claims 1 through 5, 7 through 32 and 58 through 64 and the case passed for issue.

Respectfully submitted,



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Date: May 24, 2004  
JRD/sls:djp  
Document in ProLaw